

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
REQUEST FOR FILING FWC APPLICATION UNDER RULE 62

#A/FWC

BOX FWC

70579 U.S. PTO

Pursuant to 37 CFR 1.62, please file a
☒ continuation/☐ divisional/☐ cip
of the pending prior PATENT APPLICATION of:

Inventor: Vuorinen et al
Serial No. 08/542,646

Atty Dkt.: 30-336
C# M#

Date: September 8, 1997
Group: 1330
Examiner: Alvo

Filed: October 13, 1995

For: METHOD OF TREATING CELLULOSIC PULP

Sir:

This request for filing under Rule 62 is made by the following named inventor(s) (using the above-identified title):

Inventor(s): Vuorinen et al

☐ Please delete the following inventors in the FWC application:
Deleted persons:

☐ A new oath/declaration is attached for any newly named inventor(s).

☒ Priority is hereby claimed under 35 USC 119 based on the following foreign applications:

| Application Number | Country | Day/Month/Year Filed |
|--------------------|---------|----------------------|
| 944808 | Finland | 13 10 1994 |

☐ certified copy(ies) of foreign application(s)
attached or

☒ already filed on January 26, 1996 in prior appln No. 08/542,646 filed October 13, 1995

☐ already filed in _____ filed _____

☒ Address all future communications to: Nixon & Vanderhye P.C., 1100 North Glebe Road, 8th Floor, Arlington, Virginia 22201.

☒ Please amend the specification by inserting before the first line --This is a file wrapper continuation of application Serial No. 08/542,646, filed October 13, 1995, now abandoned.--

☐ "Small entity" statement of record. ☐ "Small entity" statement attached.

☐ Petition filed in prior application to extend its life to insure copendency.

☐ Please enter the previously unentered Rule 116 amendment filed on _____

☒ The Examiner's attention is directed to the prior art cited in the parent application by applicant and/or Examiner for the reasons stated therein.

☒ Please enter the attached and/or below preliminary amendment prior to calculation of filing fee:

☒ **ALSO ENCLOSED: PTO-1449 AND REFERENCE**

FILING FEE IS BASED ON CLAIMS AS FILED LESS ANY HEREWITH CANCELED

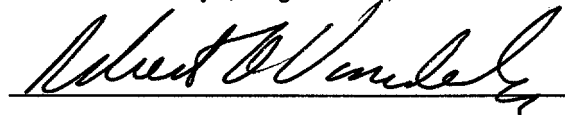
| | | | | |
|--|----|----------------------|---------------------------|-------------|
| Basic Filing Fee | | | \$ | 770.00 |
| Total effective claims | 28 | - 26 (at least 20) = | 2 | x \$ 22.00 |
| | | | \$ | 44.00 |
| Independent claims | 7 | - 4 (at least 3) = | 3 | x \$ 80.00 |
| | | | \$ | 240.00 |
| If any proper multiple dependent claims now added for first time, add \$260.00 (ignore improper) | | | \$ | 0.00 |
| | | | SUBTOTAL | \$ 1,054.00 |
| If "small entity," then enter half (1/2) of subtotal and subtract | | | \$(| 0.00) |
| | | | SECOND SUBTOTAL | \$ 1,054.00 |
| Assignment Recording Fee (\$40.00) | | | \$ | 0.00 |
| | | | TOTAL FEE ENCLOSED | \$ 1,054.00 |

The Commissioner is hereby authorized to charge any deficiency in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our **Account No. 14-1140**. A duplicate copy of this sheet is attached.

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RAV:eaw

NIXON & VANDERHYE P.C.

By Atty: Robert A. Vanderhye, Reg. No. 27,076

Signature: 

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re FWC Patent Application
of

Vuorinen et al

Atty. Ref.: **30-336**

Serial No. **To be Assigned**

Group:

Filed: **September 8, 1997**

Examiner:

For: **METHOD OF TREATING CELLULOSIC PULP**

* * * * *

September 8, 1997

Honorable Commissioner of Patents
and Trademarks
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

IN THE CLAIMS

Add the following new claims:

--29. A method of treating and bleaching chemical cellulose pulp produced by alkaline delignification and having a kappa number under 24, having hexenuronic acid therein, comprising the steps of:

(a) treating chemical cellulose pulp produced by alkaline delignification having a kappa number under 24 and at a solids consistency between 0.1-50% by treating the pulp at a temperature over 85°C and at a pH between about 2-5 for sufficient time to remove at least about 50% of the hexenuronic acid and to decrease the kappa number of the pulp by at least 2 units; and

(b) bleaching the chemical cellulose pulp from step (a) in at least one bleaching stage with chlorine, chloride dioxide, ozone, or peracid.

30. A method of treating and bleaching chemical cellulose pulp produced by alkaline delignification and having a kappa number under 24, having hexenuronic acid therein, comprising the steps of:

(a) treating chemical cellulose pulp produced by alkaline delignification having a kappa number under 24 and at a solids consistency between 0.1-50% by treating the pulp at a temperature over 85°C and at a pH between about 2-5 for sufficient time to remove at least about 50% of the hexenuronic acid and to decrease the kappa number of the pulp by at least 2 units;

(b) treating the pulp with a chelating agent; and

(c) bleaching the pulp in at least one bleaching stage with peroxide.

31. A method of treating and bleaching chemical cellulose pulp produced by alkaline delignification and having a kappa number under 24, having hexenuronic acid therein, comprising the steps of:

(a) treating chemical cellulose pulp produced by alkaline delignification having a kappa number under 24 and at a solids consistency between 0.1-50% by treating the pulp at a temperature over 85°C and at a pH between about 2-5 for at least a time t , where $t = 0.5 \exp(10517/(T+273) - 24)$ to remove at least about 50% of the hexenuronic acid and to decrease the kappa number of the pulp by at least 2 units; and

(b) bleaching the chemical cellulose pulp from step (a) having the reduced kappa number and the reduced hexenuronic acid content in at least one bleaching stage with peroxide. --

REMARKS

Another evidentiary declaration will be submitted in this case therefore it is requested that Action be held in abeyance until that time.


Also enclosed herewith, and listed on the attached form PTO-1449, is a paper from Marechal from the Journal of Wood Chemistry and Technology, 13:2 (1993) pages 261-281. This paper -- as indicated in the cover letter from Lachanel makes clear -- "has never been referred to by anybody". This is undoubtedly because Marechal did not verify how his acidic treatment could be coupled with the bleaching of kraft pulps. The yields reported by Marechal were 94.1-96.2% on pulp. Such low yields would mean that any possible savings in bleaching chemical costs (not shown by Marechal) would be lost due to a reduced income from the pulp, because the prices of cellulose pulps are based on weight. In addition to the low yield Marechal points out that "as expected the tear index was largely decreased". The tear index was, indeed, only half the tear indices of the referenced pulps, as is made clear in figure 1 attached hereto. The pulp yield and strength as they appear in the paper of Marechal are completely discouraging to anyone who would consider the acidic treatment of Marechal as a possible stage in a pulp bleaching sequence.

Vuorinen et al
Serial No. To be Assigned

Early passage of the subject application to issue is earnestly solicited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 
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Reg. No. 27,076

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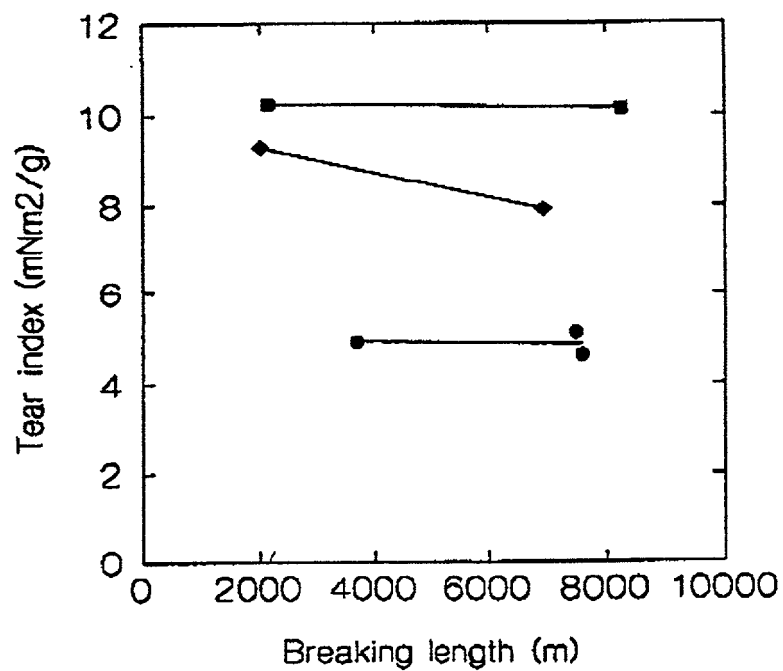


Figure 1. Data represented according to Maréchal, showing the much lower tear index of the acid treated pulp at all breaking length levels. ●: Acid treated soda/AQ pulp, ■: reference soda/AQ pulp, ◆: reference kraft pulp.